



## THE CONSTRUCTIVE METHOD OF TEACHING.

AN EXTEMPORE LECTURE DELIVERED AT EXETER HALL, APRIL 19, 1842.

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By the permission of Mr. KAY SHUTTLEWORTH, we are enabled to present our readers with the following Lecture, which was taken in short-hand. The reader's interest therein will probably be increased by referring to the Notes which we have appended to it.

LADIES and GENTLEMEN, I must request your indulgence if, this evening, I should make myself less distinctly heard than I could wish, as it has been with difficulty that I have been able to appear here to-night; and I trust that the same indulgence will be kindly extended by you to the matter which I shall have to bring before you.

In order to clear away any misconception that might be entertained as to the objects intended to be served by our assemblage this evening, I think it desirable to state that I appear here solely in my private capacity,—certainly as an anxious, and I trust a disinterested promoter of elementary education; but not authorised in any way by any body or person to appear before you to promulgate any other opinions than my own.

It is also desirable that we should bear in mind the nature of the relations which have happily been established between the members of the several Classes attending Exeter Hall, and the directors of this great public institution. We have hitherto proceeded on terms of mutual concurrence; we have desired to assist each other—to procure mutual benefits for each other—on the one hand, the benefit of co-operation in promoting the great general objects of education, and on the other the benefit to each individual of rendering his own sphere of action more productive. I trust that you will be good enough to regard me in everything that I say this evening as a fellow-labourer with yourselves. I ask for your sympathy and concurrence in the general objects which I have in view; and I trust that sympathy with these general objects will enable you to view without suspicion, and with a large measure of charity at least, the special matters I may bring under your notice.

The subject of this lecture has been announced as "The Constructive Method of Teaching." Its object is to make you aware what bond of principle connects the several classes that have been established in Exeter Hall for the instruction of persons belonging to different orders of the community.

I distinguish between two classes of methods in elementary schools: Methods of Organization, and Methods of Instruction. The methods of organizing schools might each be very fruitful subjects of observation and discussion. For example, I might occupy your time by speaking concerning that method which is known in this country as the *monitorial method of organizing schools*; and abroad, as the *mutual method of instruction*. The subject which I have to treat to-night differs from all questions connected with the *organization of elementary schools*, although it is allied to those questions; but it has this peculiarity, that it disturbs nothing on which controversy has hitherto arisen in this country,—it threatens no existing interest. It has never yet been made the subject of debate among parties in England. It is a neutral ground, which I trust I may be allowed to occupy without exciting opposition: a neutral ground, upon which I trust I may be allowed to conciliate a large amount of co-operation from all who are interested in the improvement of elementary education in this country, to whatever class of schools they may belong. It has

never been my desire to raise any question or controversy which should interfere directly or indirectly with the interests of any class of schools; and I strive to guide my personal efforts by a maxim, which cannot be too strongly impressed on all who desire to be improvers in any department—the maxim, that more is gained by the exposition of truth than by the refutation of supposed error. I wish, therefore, to be understood as claiming to occupy, in the lecture I deliver to-night, a ground entirely neutral. It is my intention to touch no subject of controversy which affects any existing interest in this country.

If the preceding motives were insufficient to determine the character of my personal efforts, I should feel bound to adopt this course because the principle by which the Committee of Council on Education have distinguished their proceedings has been to avoid as much as possible raising questions which might excite conflict.

In publishing, for example, their plans of school houses, the Committee of Council have been careful to give plans of the methods of organization which have been introduced into this country, and of the three characteristic methods prevalent in foreign countries. They have expounded one class of these plans somewhat more fully than others, because these others were more familiarly known; but they have left the adoption of these plans very much to the gradual influence of public opinion.

I might also refer to the course which the Committee of Council on Education have taken in reference to the preparation of the *Manual of Music*, which has been so successfully adapted to English use by Mr. Hullah, and with which the greater part of you are more or less acquainted. That manual was not prepared for any one class of schools. The larger portion of the preliminary matter which relates to the organization of schools refers to the monitorial system of instruction prevailing in this country, because that system was the most widely diffused; but the method is equally applicable to that technically termed "the mixed method," or that called "the simultaneous method" of organization and instruction. It was the object of the Committee to prepare the Manual of Singing first for introduction into the monitorial schools, but not to neglect its applicability to those founded upon the mixed or simultaneous principle.

I have nothing more to do this evening with the general question of the organization of schools, than to state in these preliminary remarks, the place which what I have to say holds in relation to the general question. It holds an entirely neutral position. The various adaptations of the Constructive method which I shall have to bring under your observation are applicable—with greater or less facility undoubtedly, but still applicable—to schools founded on the monitorial system of instruction, to schools founded on the mixed method, and to schools founded on the simultaneous method of organization.

I intend chiefly to draw your attention to-night to the Constructive Method, as applied to the art of teaching very young children to read—to that of teaching children to write—to one mode of arithmetical instruction, and, as adapted to teaching the drawing of form.

You are doubtless aware that for the last twenty years the question of method has been cultivated with assiduity, and success, amongst those of the continental nations which have made the improvement of elementary education a subject of legislation. It appeared reasonable that some inquiry

should be made whether these improvements in method were characterized by any general accordance, or whether they differed in each country, both in principle and in detail, and whether in any case the change was the result of proceeding in a direction contrary to the rest. For the purpose of solving this question, a considerable number of books which had been published on the subject of method, and many schools which were supposed to contain the characteristics of different methods of instruction, were examined\*; and the result showed, that there were prevalent two distinct classes of methods in the schools which had received the greatest development in the different states of Europe. The first of these classes of methods is the "Constructive," which it is my object in some degree to define to-night; the other, prevalent to an exceedingly less extent, is the "Analytic" method. In ordinary teaching, in schools where there is little care to observe system in the arrangement of the subject; where matters are taken much at haphazard; where authority is much employed, and the memory almost solely depended upon, one or other of these methods may be mixed up with greater or less congruity with the other. It is difficult to avoid using one or other in some degree, except in schools which make no pretension whatsoever to skill, where reliance is placed on mere dogmatism, where the memory of the child is required to receive that which it *does not understand*, and coercion is employed as the means of enforcing attention. But in all schools except the purely dogmatic,—(where authority is employed to load the memory with what is not understood,)—there is a tendency either on the one side towards the Analytic, or on the other to the Constructive method.

I will endeavour to explain what these two technical terms mean. The advocate of what I designate the analytic method, was M. Jacotot. M. Jacotot taught that the best method of giving instruction in reading was to take up almost any book; to open the first page, to begin with the first word, to teach the child to read that word, then proceed to the second word, and so on. It was a matter of secondary importance to M. Jacotot, whether the book was the work of an author of merit in point of style, or whether it was written in monosyllables. In fact, he preferred a work somewhat distinguished as to style. What he required was that the child should be taught to read the first word—(he taught it of course with difficulty,)—then the second; then the third; and so on. Probably the first day was expended in teaching the child three words. The next day perhaps the child learned five other words; and the third day perhaps some more. Every day he recommenced at the beginning of the sentence—going over the course pursued the previous day, and gradually advancing till the child had mastered a connected sentence or paragraph. He preferred, of course, taking a book that was interesting to the child,—but he did not lay great stress on the nature of the book selected. You perceive that what the child had to do was a work of analysis. The teacher stood by the child, secured its attention, assisted it by his conversation, in making it acquainted with the meaning of the words and the collective meaning of the sentence; but as to all that was mechanical in learning the signs of sounds, of which I shall speak more fully immediately, the child had to depend on its own unassisted faculties. There was no attempt on the part of the teacher to reconcile such incongruities as I shall bring under your attention. All this was absent from the teacher's mind. The child for instance had to reconcile the fact that there are twenty-six letters in the English alphabet, and eighty-six sounds, and that these sounds are all represented by these letters. He had to find out when it was that a represents one of the four sounds which from time to time it indicates; and so on with respect to the other vowel sounds, and the difference arising from diphthongal connection—double or treble consonant sounds, and the effects of consonants in modifying vowel sounds,—all these had to be learned as mere matters of memory. What the child learned was, to recognise words by processes exactly similar to those undergone in learning the signs of thought in Chinese, each word or symbol of thought being different from most others. That is the Analytic method—pushed to the extreme,—requiring everything to be done by the child.

The Constructive method is of a totally different character. I will take up the subject of reading first, as I have already referred to M. Jacotot's method of teaching, and endeavour to define what is the process adopted in teaching to

read by the Constructive system. One might regard the question of teaching to read from various points of view. None of these subjects are perfectly simple; they are all more or less complicated. I shall show you after I have regarded the subject of learning to read in one point of view, that it may be looked at from various others, and that we might devise a Constructive method from each of those points of view.

In learning to read, a child has to learn the signs of sounds, combined into words, and these combined into sentences. The most obvious step is to make the child aware, first, that a word consists of separate sounds, which would not be otherwise apparent to a mere child; and the duty of the teacher upon the Constructive method of teaching to read is, himself to analyse, in the hearing of the child, some of the most familiar and simple words. For example, the teacher might select the word *Man*. If a child were asked if it knew whether the word *man* consisted of one or more sounds—it would say it contained but one sound. A child could have no idea that the word could be analysed into three separate sounds; and supposing we were to pursue the Analytic method the child would be left to find this out, if indeed it were a matter of any utility in that system to discover it. In the Constructive method, analysis is the duty of the teacher.

The child would be made acquainted with the simple sounds of which a word is composed, by the master proceeding to analyse in its hearing certain words in most familiar use, until he had made the child acquainted with the vowel sounds, and then with the consonant sounds. It would, for example, be the duty of the master to make the child acquainted with the fact that the word "*man*" consists of three simple sounds,—the first signified by the letter "*m*," the next by the letter "*a*," and the third by the letter "*n*." He would not tell it the names of the letters; but having analyzed the word, he would attribute to each letter its sound thus, "*m-a-n*."

Now, the ordinary mode in which children are taught to read, includes a great deal of what is analytic, not constructive. An ordinary spelling or reading book is composed in the following way. The child has first to learn the names of the letters, a, b, c, d, e, f, g, &c. With the exception of four of the vowel sounds, there is no letter in the whole of the alphabet which, by its name, could give a child any idea of the sound it was intended to represent. He has therefore learned the names of the letters first, they are more easy of pronunciation than the sounds; but the syllabic combinations which are devised as the easiest step in the ordinary process of teaching to read, are almost as arbitrary as the names of the letters. Thus, in *ba*-, when followed by *-ll*, the sound of *a* is altogether different from the sound of this letter when *ba*- is followed by *-te*, and they both differ from its sound when *ba*- is followed by *-a* or by *-r*. To teach a child to read by means of syllabic combinations is therefore as arbitrary as to teach the child by the mere names of the letters—the child has to find out for himself which of the four sounds of the vowel *a* is to be used in every combination of that vowel. It is a matter of dogmatism to teach the child to read by such a method, by authority, without any appeal to the reason. Such teachers commonly suppose that the difficulty is mastered if the first lesson consists of monosyllabic words. Let us take an example, the word *thought*, and see if the difficulty is got over. It seems a very short word; but how is a child, who comes to exercise its reason, to be satisfied that *t-h-o-u-g-h-t* represents the sound *thought*? *T-h-o-u-g-h-t* spells nothing but *t-h-o-u-g-h-t* in each separate enunciation of sound; there is no apparent reasonable connection in the combination and the resulting sound.

It is to be confessed that the difficulties in the way of applying the Constructive method of teaching to read to the sounds of the English language are great. Throughout the whole of Germany, and a large portion of Switzerland, the usual methods of teaching to read, are methods such as I shall attempt generally to describe.—The system is called there *Laut methode*, founded on an analysis previously made of the varieties of sound in the language,—for the sake of brevity I shall characterise it as the Phonic method.

In attempting to make a similar analysis of the English language we have to overcome the great difficulties arising from the peculiar sources of our language. The insular position of our country, in connection with its successive invasions and internal changes, has made our language a reservoir of the varieties of sound of all nations on

\* See Note A.



the continent with the exception of the Slavonic. Our language contains almost every variety of vowel sound. The only remarkable exception certainly is the Slavonic sounds that have not been introduced into this country. It is therefore much more difficult to analyse, according to its phonic peculiarities, a language composed of such heterogeneous materials than to analyze a language of a more simple construction. The language which in Europe might be most easily analysed would be the Italian—probably next to that the Spanish—next to that, I should say, the German,—probably next the French—and then the English—the most difficult of analysis. It must therefore be remembered that in proportion to the difficulties that exist on the part of any one who applies months of careful examination to this analysis—in the same proportion are there difficulties to be overcome by the child in reconciling the apparent contradictions that oppose his knowledge of the art of reading in that language. It is impossible to take up any one of the Primers now in use in the schools of this country without perceiving in each page contradictions of the most obvious but extraordinary character, which must be sources of vexation to a child.

Perceiving the difficulties of this subject—(I fear I must cut short my observations on this point, as the hour rapidly flies away, and I have other matter to engage our attention)—perceiving the difficulties of this subject, the Committee of Council thought it their duty to endeavour to surmount these obstacles. They felt it was occupying neutral ground to endeavour to improve the schools of this country, by the publication of new methods of instruction, leaving to the masters and promoters of these schools to determine whether these methods could be introduced with advantage or not, or whether in any way they obstructed the general organization of the schools. For this purpose a gentleman was selected, who was thoroughly acquainted with the principles on which the Phonic method was taught in Germany; he was brought over to this country; he was employed during three or four successive months in making an analysis of words according to their phonic peculiarities in accordance with the principles adopted in Germany. Since the termination of his labours the manuscript has not made such rapid progress as might have been desired, but I am happy to say that measures will probably soon be adopted which will ensure its early publication.

In this mode of instructing children by the sounds of the language, I said it would be the duty of the teacher as a preliminary step to show the child that words can be analysed into separate sounds; and, having established this conviction in the mind of the child, his next step would be to proceed by construction, or synthesis, to teach the child how to unite these sounds together so as to form words. At this stage the peculiarities of the Constructive method develop themselves. The rule upon which any method strictly constructive depends for its success is, that whatever is simple is first brought under the attention of the child; and the person who makes the analysis, must determine with great care what is easiest of acquisition, in order that the easiest step may be taken by the unexercised powers of the child. I must request you to bear in mind, what are the peculiarities of the organization of a child, and the great difficulty there must be for a feeble, undeveloped mind, when not exercised in processes of thought, to make any extensive or laborious combination. The work we should ask of a very young child, should be strictly infantile. You ought not to ask from a child the labour of a man. That demand is made by the Analytic method. In selecting the first steps of instruction to a child, especially in a branch so purely elementary as reading, it is of the utmost importance that they should be of the simplest character. What has appeared to all persons who have formed a constructive method on the phonic analysis of language to be the simplest step, is first to acquaint the child with the signs of the vowel-sounds. Then the Germans distinguish certain consonants into which the vowel-sounds enter as a larger component part than others, which consonants they denominate tone consonants. After this they describe certain other consonants as hissing consonants; and they proceed to a third class which are called "bursting" consonants, from the peculiarity of their enunciation, bursting as it were from the lips. So on they proceed through certain classes.

The child is therefore first taught the signs of certain vowel-sounds, then the combination of these vowel-sounds with certain tone consonants into words, admitting no word into any lesson except what is strictly a combination of a vowel-sound with a tone consonant; and after exhausting words falling under that head, proceeding to combinations with the hissing consonants, and so on in succession. In the course of these combinations, it is found, that various other subjects which require to be treated according to the laws of construction are presented to the analyst. For example, there are in every language combinations in which the sounds of various signs are modified; and it becomes important to contrive that every one of these varieties shall be brought singly before the mind of the child, apart from all others, in the order of their simplicity. The work of the analyst is confined to the arrangement of the sounds of language; but in constructing sentences, he forms lessons to accompany the several classes of words. The sentences first used should relate simply to objects: next the most obvious and simple qualities of objects should be introduced; but the motions, actions, mutual relations of objects, which complicate the structure of a language and form its grammar, should only be introduced in the order of their simplicity, ascending from the simple to the more complex.

From the very general description I have attempted to give of a subject of considerable intricacy, it is obvious that in the construction of the ordinary English Primers there have been omitted a great variety of considerations which they should have included. In fact to teach a child to read by an ordinary Primer is to ask it to perform the work of analysis—a work of difficulty; or to do another thing, of still more obvious error, to teach a child what it cannot understand, and what is apparently contradictory, by the mere influence of authority.

On this last subject permit me to say that the law of kindness can never be established in schools, until both the general promoters of education and the masters of schools will consent to regard the children placed under their care as rational creatures, whose minds, feeble and unexercised—having powers as yet little instructed or developed—are not capable of the great efforts which minds of a higher and more instructed order can perform with ease, but which can be not merely affrighted, not merely puzzled, not merely made to disbelieve the teacher, not merely divested of all interest in the subject of instruction, but made school-rebels in a very short time by applying the authority of the master to load the memory of the child not only with what it does not understand, but with what is revolting to its understanding. The moral discipline of a school is so inseparably connected with the adoption of rational methods of instruction, that if the master be unable to perform the work of an analyst so as to give young children tasks proportionate to their ability, he cannot succeed in enforcing his instruction on their memories, unless he will also consent to be a tyrant; for he will encounter listlessness, apathy, and ultimately rebellion and disorder; and he can only restore his school into subjection by requiring the children to do what they are unwilling to perform, and by punishing them if they disobey. So general is the belief that this is the proper discipline of a school, that it is customary to encounter incredulity, when it is confidently asserted that no school can be well regulated which depends chiefly upon any other influence than the influence of affection and reason for its success, and that no school therefore can be well regulated that depends chiefly on the influence of authority. It is difficult, if not impossible, without introducing the characteristic law of the teaching of Christianity—the suasive influence which can alone regulate the affections, conciliate the good will, and carry captive the whole nature of the children, to make them listen with eager interest to your instruction, and submit their consciences to the moral law, much less to inspire them with religious sentiments and convictions. You must thus consent to regard them as rational creatures, whose mind it is necessary to furnish, not with contradictions, but with truth.

I request your attention for a few moments to a mechanical contrivance. I have not done justice to the general principle; but as I have other matter to bring before you, I trust you will pardon the incompleteness of what I have said. This box is usually employed in teaching

reading on the Phonic method in Holland and Germany. The sides of the box contain letters arranged according to their sounds; for the English Language there are eighty-six divisions. The children become very rapidly familiar with the arrangement of these letters in the side boxes. The master first combines the letters into words, which are placed in the central compartment of the box. A variety of lessons can thus be performed, the children going in front of the box, combining letters and thus forming words, correcting each other, and by degrees composing sentences. In fact, by this means the task of learning to read becomes a pastime. You have probably forgotten your own feelings in learning to read by the ordinary method; but observe some of your little friends undergoing this species of mental torture, watch the children toiling with perplexing combinations,—exercising their memory without any employment of their judgment,—they wear no appearance of pleasure or hilarity, they are the most unwilling drudges of the school.

The greatest difficulty in applying the Phonic method is, that the lessons for reading, being constructed on phonic laws, must have a certain degree of constraint; and the subject must be limited by the same rule. Mr. Wood, of Edinburgh, published some useful lesson books, the general arrangement of which has been followed in other class books for elementary schools, and has been admirably imitated and improved by the Commissioners of National Education in Ireland, whose reading lessons depend for their popularity and success on the extent of useful information which they convey. Mr. Wood has happily characterised his method as the Intellectual method, because he depends upon the variety and extent of useful information which his books contain, for the interest with which he inspires the children, and the efforts he thus calls forth to surmount the ordinary difficulties of learning to read. To render the ordinary reading lessons a vehicle of well arranged, compact and useful information, is an advantage of great value that ought to be combined with the phonic analysis of sounds in any work for teaching children to read upon a Constructive method.

You will find an admirable chapter on this subject in Mr. Edgeworth's work on "practical education," to which I would solicit your attention. The chapter is "On Tasks;" and deals with all the difficulties I have attempted to describe; and so far as prevalent errors are concerned it exposes them with singular felicity, and indicates the first steps to be taken for the improvement of methods of teaching to read. Such of the audience as are schoolmasters cannot do better than give their earnest attention to the whole work.

With these remarks I must dismiss the subject of teaching to read, and solicit your attention for a few moments to a constructive method of teaching to write. In one of the cantons of Switzerland, the canton of Zurich, the master of the normal school of Kusnacht obtained the approbation of the government to a decision which I think you will at first sight regard as somewhat extraordinary, but which on reflection you will perceive is not unreasonable. M. Scher succeeded in introducing into the schools of the canton of Zurich the plan of teaching the children to write before they were taught to read. The object of this departure from the usual order was to employ the faculty of imitation, which is so strong in young children, and thus to secure their attention at the earliest period, first to the forms of written letters, and afterwards to the forms of printed letters. He taught writing by the Constructive method, although his analysis was not perfect. There are on these boards certain letters which will explain to you the method of teaching to write, introduced first by M. Mulhauser in Geneva, and which has since spread into France, where it is taught in some of the normal schools. This method of teaching to write depends for its success upon the principles I have described at greater length with respect to the mode of teaching to read. It depends on a very careful analysis of the forms that enter into the usual written characters, presenting to the child, first, the simplest, afterwards in series the more difficult forms—combining the elementary forms into letters in the order of their comparative simplicity, and writing words at each step containing only the elementary forms which have entered into previous lessons. The first form to be drawn according to this method is one which is not separately represented on the board. I presume you will all, even at a distance perceive that the board is divided,

first, by oblique lines at the same distance from each other, and then by horizontal lines at equal distances; the object being thus to indicate the inclination of letters, next, their height, and then their breadth; and with respect to either height, or breadth, or form, the names given to the elements of the letters are each the sign of a rule easily comprehended by the children, and which defines the form of each letter. In dictating the separate names of these elements the teacher at the same time announces the law which determines the form of the letters. For example the first would consist in writing a right line; and that I believe is the common process in all methods of teaching to write. The next would be to combine this right line with a curve at the bottom. It is very easy to call this a right line, and describe it as proceeding through one height, and thus to announce the rule.—

[The remainder of these illustrations could not be followed in short-hand.]

Perhaps I have said enough to show you how these forms have been analysed; and how, always ascending from the simple to the more complex, the rule defining the letter is announced. Besides the analysis and the definition of the rule by means of a name, a master would by this method be enabled to teach simultaneously a large school of three or four hundred, supposing the children all of one proficiency—by simply putting up a monitor at one end of the room to dictate to the others. I have seen in schools of from three to five hundred in Paris\* and Geneva, a monitor dictating the different forms of letters while the children wrote them down, and I was surprised to find on inspecting their copybooks few errors committed.

I need scarcely detain you by entering into the general question of the utility of the subject which I have next to bring under your attention. I desire to speak to you now of the Constructive method of teaching drawing. It is quite obvious I trust to all of what great utility in a manufacturing and commercial country, drawing is to all classes of the people. I think I do not exaggerate when I say that it is perhaps of greater immediate importance, as a means of bettering their condition of life, to the humbler orders, the working classes of the community, than to any other. In treating the question of drawing, I wish to separate in your minds two objects commonly united in schools of design. The question before us might be what is the best method of improving the taste of any class in this country—of improving the art of design in relation to what is beautiful, and so arriving in any department of commerce or art, at the perfection of taste. There is another view of the question which I am more concerned to bring under your attention to-night, because it appears to be that which is naturally associated with the development of elementary schools,—I mean the cultivation of the drawing of form as distinguished from the elevation of taste. You are aware that one of the greatest difficulties which the manufacturers of this country have to contend with is the extreme rarity of any considerable cultivation among artisans either of taste, or of skill in drawing form. I believe that the fortune of many a poor man engaged in the great manufactures of this country, has been wrecked because, though he possessed acute and sagacious conceptions as to mechanical combinations, he was unable to give them expression by drawing the form of the machine he had conceived; whereas if he had cultivated that power, he would have been enabled to describe perfectly his new mechanical combinations, which would have made his services of such advantage to his employer that he might have aspired to become a partner in the commercial engagements of the house in which he was employed, and probably, have secured to himself a large rate of profit.

On the other hand I am very well aware that extreme difficulty is experienced among the manufacturers of the country in securing to themselves from among their workmen, persons who have taste in drawing beautiful patterns. In all those departments of commerce into which taste, either in colour or form, enters as an ingredient of the price of any of the articles brought to the market, it is acknowledged that the manufactures of the continent, and particularly of France, excel our own; and you know that in the evidence given before the Committee on the Copyright of Designs, it has been acknowledged, that in silks and printed calicoes, and in other departments of manufactures, wherever design enters as an element into price, the manufacturers of this country

\* See Note B.



are accustomed to obtain their patterns from Paris. A necessary appendage to every great silk manufactory, and to every great calico-printing manufactory in this country, is an agency in Paris, I do not use the term offensively, for the piracy of designs. A very large portion of the designs used in this country are procured by this agency, and by means of our natural facilities, our coal and iron, and the unequalled industry and perseverance of our artisans, these patterns are re-produced in a cheaper form than in France.

But it would add greatly to the wealth of this country, if, instead of being dependent on obtaining these designs from abroad, we could produce them by our own native talent; the existence of such an agency, compels the French manufacturers to make their engagements with the utmost secrecy, and to stipulate that both in the foreign, colonial, and home markets, their patterns shall not be exhibited one day before the proper season, lest the English manufacturers, who cannot procure the taste among their own workmen requisite for the production of such patterns, should forestall the sale by the greater cheapness of their articles if the patterns could be pirated. If we in this country had cultivated the arts of design, to the same extent as the artisans of France, we should have had a means of pre-eminence in foreign markets, which we do not at present possess. Surely then it is an object of great national importance, to secure the cultivation of taste among the artisans of this country. But that is not the subject to which I wish to-night specially to draw your attention. The cultivation of taste belongs, not exclusively perhaps, but chiefly, to the schools of design. One of these has been established, and I am happy to say is flourishing, under the immediate patronage of Government, at Somerset House, another in Spital-fields, another in Manchester, and there are others in the great mercantile towns. They have commenced a work of great importance to the country; and we wish them the greatest success. But, previously to the cultivation of taste for what is beautiful, and the successful cultivation of skill in drawing the beautiful, it is first necessary, that we should be able to draw form. We are of opinion that the proper province of the elementary school is the *drawing of form*, without relation to taste. I will give you the grounds of that opinion in as few words as I can.

There is not a more pleasing spectacle in any part of Europe than the evening schools of Paris. There it was that I first had the great satisfaction of witnessing the triumph of that method of teaching vocal music—the method of M. Wilhelm, which has been introduced with such success by Mr. Hullah in Exeter-hall\*. In the evening schools, great bodies of working men assemble—men grey in years—men who were employed during the revolutionary wars of France,—conscripts, drawn from their homes when the elementary instruction of France was unorganized, and who had enjoyed no education; such men as these assemble for the purpose of instruction in the mere rudiments of elementary education, reading, writing, arithmetic, &c., When I was in Paris there were six hundred male adults assembled every night in the normal school of Versailles alone to receive instruction in reading, writing, and music. But in the schools scattered throughout Paris other objects are included, and among these is instruction in drawing.

The methods pursued for instruction in drawing up to a very recent period had relation chiefly to the cultivation of taste. I have had a few plates taken out of a large work on this subject placed on the canvas behind.

This work was intended for those schools of design in which I found the main object was to cultivate the taste. It is a work of exceeding ingenuity, and constructive to a large extent, proceeding from the simple to the more complex. I have here several other works of the same description, all intended for drawing schools in Paris attended by large numbers of the working population. Nothing is more common, on entering these schools, than to see working men who have quitted their daily toil at six or seven o'clock, working from eight to ten, two or three nights a week, acquiring the arts of design, and making drawings in chalk of difficult engravings from pictures of the most celebrated masters. I have seen lying on the table admirable specimens of chalk-drawings from Raphael, Domenichino, and M. Angelot.

A similar process was pursued in the elementary schools of Paris, and successfully (considering the tender age of the pupils), as far as respects the copying of designs and the cultivation of taste.

Inquire respecting the articles of taste, such as the clocks you see at the west end, whence they have come, you will find, that notwithstanding our commercial code they have generally been made in Paris. I have already spoken of the patterns for silks and calicoes; and of the best designs for upholstery, for the hangings of rooms, for ornaments of grates, &c., you will find they all come from Paris, in consequence of the great extent to which they have carried the cultivation of taste among the artisans of that capital. But having stated that in point of taste a great advantage has been obtained, I have something to observe on the other side of the question. A very ingenious man, M. Dupuis, inspector of the elementary drawing schools of Paris, having observed the beautiful drawings that lay upon every table in those schools, thought it important to test whether the artists who produced such beautiful designs were capable of drawing from nature. He therefore requested some of the greatest proficient in the room to draw the chair or the desk of the master, or to sit in a corner and draw the room itself in perspective, and the consequence was almost universal failure. The cultivation of taste and mere copying of form from designs is to be distinguished from the drawing of form from objects in nature, unless those objects in nature are of a kind presenting a plain surface to be copied. It therefore became a question of great importance, in relation to the very objects served by the cultivation of taste, to devise a means of surmounting this difficulty. The drawing of form is a much more elementary matter than the cultivation of taste for the beautiful, and skill in drawing form ought to precede the cultivation of taste. Form ought to be drawn first, not altogether independently perhaps, but as a means of attaining skill in drawing for the beautiful. The drawing of form is connected with certain general laws of perspective; and the pupil must be practised in these laws by the constructive method, ascending here also from the simple to the complex.

M. Dupuis devised a series of models, the intention of which was to practice the pupils of the drawing schools of Paris in drawing form, from the models so placed as to enable the master, not by reference to geometry, but simply by reference to certain general laws of light,—some obvious common-sense views of the subject—to teach the general laws of perspective in combination with the means afforded the pupil to acquire skill in drawing form. I have before me a variety of these models. The simplest of course is the right line. The right line is placed opposite to the class intended to be taught, then linear figures in various degrees of perspective. I will take an object, in order to illustrate what I mean. This circle, you might easily convert in perspective into an oval or ellipse. Other models could thus be drawn in various degrees of perspective, the law, in relation to all these varieties, being announced not geometrically, but by some plain common-sense principle, and thus rendered obvious.

Having gone through some of these outline combinations, objects would be taken not presenting mere outlines, but presenting likewise the means of delineating solid forms, and which might also be placed in various degrees of perspective, varied infinitely so as to present problems to be solved by reference to certain simple laws, ascending through a series of increasing complexity, until the pupil drew hollow skeleton forms of this description, in perspective.

[Several demonstrations were here given with the models rapidly, which it was difficult to report.]

Thus a very simple demonstration might be given of some of the most difficult laws on which perspective depends. Those drawings you see attached to the canvas are brought from a school in the neighbourhood of London—the system having only been in operation for about twelve months. They might be drawn by the pupils of the humblest elementary school in London, in a very limited period indeed.

Having already exhausted much more time than I intended to do, I can only briefly say, that it was my intention to speak of the application of the Constructive method to a process devised by Pestalozzi, and which he called the intuitive method of teaching arithmetic; but I feel that I must now retire with a sense of the inadequacy of the time allotted to this Lecture, and the incompleteness of the exposition I have attempted to offer you.

\* See Note C

† See Note D.

## NOTES ON THE FOREGOING LECTURE.

## NOTE A.

Mr. Kay Shuttleworth, in conjunction with Mr. Tufnell, visited the most remarkable among the schools of Holland, Prussia, Saxony, France, and Switzerland. Their attention was directed with peculiar interest to the schools of Switzerland, in the examination of which they spent several weeks uninterruptedly. During this period they inspected daily one or more schools, and conversed with the authorities of the several cantons, with the directors of the normal schools, and with individuals distinguished by their knowledge of the science of elementary instruction. Among these may be noticed the familiar name of De Fellenberg. "What we learned from the conversation of this patriotic and high-minded man we cannot find space here to say. His words are better read in the establishments which he has founded, and which he superintends, and in the influence which his example and his precepts have had on the rest of Switzerland, and on other parts of Europe\*."

A highly interesting visit made by these gentlemen to the normal school of the canton of Thurgovia is described at some length. This school was under the superintending care of Vehrli, who had many years conducted the poor-school of De Fellenberg at Hofwyl. The normal school is at Kruitlingen, on the shore of the Lake of Constance, about one mile from the gate of the city. The pupils are sent thither from the several communes of the canton, to be trained three years by Vehrli, before they take charge of the communal schools. Their expenses are borne in part by the commune, and partly by the council of the canton. Mr. Kay Shuttleworth and Mr. Tufnell found the school to contain ninety young men, apparently from eighteen to twenty-four or twenty-six years of age. "Vehrli welcomed us with frankness and simplicity, which at first won our confidence. We joined him at his frugal meal. He pointed to the viands, which were coarse, and said,—'I am a peasant's son. I wish to be no other than I am, the teacher of the sons of the peasantry. You are welcome to my meal: it is coarse and homely, but it is offered cordially.'"

"We sat down with him. 'These potatoes,' he said, 'are our own. We won them from the earth, and therefore we need no dainties, for our appetite is gained by labour, and the fruit of our toil is always savoury.' This introduced the subject of industry. He told us all the pupils of the normal school laboured daily some hours in a garden of several acres attached to the house, and that they performed all the domestic duty of the household. When we walked out with Vehrli, we found them in the garden digging, and carrying on other garden operations, with great assiduity. Others were sawing wood into logs, and chopping it into billets in the court-yard. Some brought in sacks of potatoes or baskets of recently gathered vegetables. Others laboured in the domestic duties of the household."

"After a while the bell rang, and immediately their outdoor labours terminated, and they returned in an orderly manner, with all their implements, to the court-yard, where having deposited them, thrown off their frocks, and washed, they reassembled in their respective class-rooms."

"We soon followed them. Here we listened to lessons in mathematics, proving that they were well grounded in the elementary parts of that science. We saw them drawing from models with considerable skill and precision, and heard them instructed in the laws of perspective. We listened to a lecture on the code of the canton, and to instruction in the geography of Europe. We were informed that their instruction extended to the language of the canton, its construction and grammar, and especially to the history of Switzerland; arithmetic; mensuration; such a knowledge of natural philosophy and mechanics as might enable them to explain the chief phenomena of nature and the mechanical forces; some acquaintance with astronomy. They had continual lessons in pedagogy, or the theory of the art of teaching, which they practised in the neighbouring village school. We were assured that their instruction in the Holy Scriptures, and other religious knowledge, was a constant subject of solicitude."

"The following extract from Vehrli's address at the first

\* Report to the Secretary of State for the Home Department from the Poor Law Commissioners on the training of Pauper Children. 1841. Our extracts are taken chiefly from the admirable report marked No. VI. in this volume, by Mr. Kay Shuttleworth and Mr. Tufnell on the Training School at Battersea.

See also *Saturday Magazine*, Vol. V, p. 234.

examination of the pupils in 1837, will best explain the spirit that governs the seminary, and the attention paid there to what we believe has been too often neglected in this country,—the education of the heart and feelings as distinct from the cultivation of the intellect. It may appear strange to English habits to assign so prominent a place in an educational institution to the following points, but the indication here given of the superior care bestowed in the formation of the character, to what is given to the acquisition of knowledge, for in our view the chief charm and merit in this and several other Swiss seminaries, and is what we have laboured to impress on the institution we have founded\*. The course of life in this seminary is threefold. 1st.—Life in the home circle, or family life. 2nd.—Life in the school-room. 3rd.—Life beyond the walls, in the cultivation of the soil."

"I place the family life first, for here the truest education is imparted; here the future teacher can best receive that cultivation of the character and feelings which will fit him to direct those who are entrusted to his care, in the ways of piety and truth."

"A well-arranged family circle is the place where each member, by participating in the other's joys and sorrows, pleasures and misfortunes, by teaching, advice, consolation, and example, is inspired with sentiments of single-mindedness, of charity, of mutual confidence, of noble thoughts, of high feelings and of virtue."

"In such a circle can a true religious sense take the firmest and the deepest root. Here it is that the principles of Christian feeling can best be laid, where opportunity is continually given for the exercise of affection and charity, which are the first virtues that should distinguish a teacher's mind. Here it is that kindness and earnestness can most surely form the young members to be good and intelligent men, and that each is most willing to learn and receive an impress from his fellow. He who is brought up in such a circle, who thus recognises all his fellow-men as brothers, serves them with willingness whenever he can, treats all his race as one family, loves them, and God their Father above all, how richly does such a one scatter blessings around! What earnestness does he show in all his doings and conduct, what devotion especially does he display in the business of a teacher! How differently from him does that master enter and leave his school, whose feelings are dead to a sense of piety, and whose heart never beats in unison with the joys of family life."

"Where is such a teacher as I have described most pleasantly occupied? In his school amongst his children, with them in the house of God or in the family circle, and wherever he can be giving or receiving instruction. A great man has expressed, perhaps too strongly, 'I never wish to see a teacher who cannot sing.' With more reason I would maintain, that a teacher to whom a sense of the pleasures of a well-arranged family is wanting, and who fails to recognise in it a well-grounded religious influence, should never enter a school-room."

"As we returned from the garden with the pupils on the evening of the first day, we stood for a few minutes, with Vehrli, in the court-yard by the shore of the lake. The pupils had ascended into the class-rooms, and the evening being tranquil and warm, the windows were thrown up, and we shortly afterwards heard them sing in excellent harmony. As soon as this song had ceased we sent a message to request another, with which we had become familiar in our visits to the Swiss schools; and thus, in succession, we called for song after song of Nageli, imagining that we were only directing them at their usual hour of instruction in vocal

\* The training school at Battersea is here referred to; the establishment of which is due to the philanthropic exertions of Mr. Kay Shuttleworth and Mr. Tufnell. "We were anxious," say these gentlemen, "that a work of such importance should be undertaken by the authorities most competent to carry it into execution successfully, and we painfully felt how inadequate our own resources and experience were for the management of such an experiment; but after various inquiries, which were attended with few encouraging results, we thought that as a last resort we should not incur the charge of presumption, if, in private and unaided, we endeavoured to work out the first steps of the establishment of an institution for the training of teachers, which we hoped might afterwards be entrusted to able hands. We determined therefore to devote a certain portion of our own means to this object, believing that when the scheme of the institution was sufficiently mature to enable us to speak of results rather than of anticipations, the well-being of 50,000 pauper children would plead its own cause with the Government and the public, so as to secure the future prosperity of the establishment."



music. There was a great charm in this simple but excellent harmony. When we had listened nearly an hour, Vehrli invited us to ascend into the room where the pupils were assembled. We followed him, and on entering the apartment great was our surprise to discover the whole school, during the period we had listened, had been cheering with songs their evening employment of peeling potatoes, and cutting the stalks from the green vegetables and beans which they had gathered in the garden. As we stood there they renewed their choruses till prayers were announced. Supper had been previously taken. After prayers, Vehrli, walking about the apartment, conversed with them familiarly on the occurrences of the day, mingling with his conversation such friendly admonition as sprang from the incidents, and then lifting his hands he recommended them to the protection of heaven, and dismissed them to rest.

"We spent two days with great interest in this establishment. Vehrli had ever on his lips:—'We are peasants' sons. We would not be ignorant of our duties, but God forbid that knowledge should make us despise the simplicity of our lives. The earth is our mother, and we gather our food from her breast, but while we peasants labour for our daily food, we may learn many lessons from our mother earth. There is no knowledge in books like an immediate converse with nature, and those that dig the soil have nearest communion with her. Believe me, or believe me not, this is the thought that can make a peasant's life sweet, and his toil a luxury. I know it, for see my hands are horny with toil. The lot of men is very equal, and wisdom consists in the discovery of the truth that what is *without* is not the source of sorrow, but that which is *within*. A peasant may be happier than a prince if his conscience be pure before God, and he learn not only contentment, but joy, in the life of labour which is to prepare him for the life of heaven.'

"This was the theme always on Vehrli's lips. Expressed with more or less perspicuity, his main thought seemed to be that poverty, rightly understood, was no misfortune. He regarded it as a sphere of human exertion and human trial, preparatory to the change of existence, but offering its own sources of enjoyment as abundantly as any other. 'We are all equal,' he said, 'before God; why should the son of a peasant envy a prince, or the lily an oak, are they not both God's creatures?'

"We were greatly charmed in this school by the union of comparatively high intellectual attainments among the scholars, with the utmost simplicity of life, and cheerfulness in the humblest menial labour. Their food was of the coarsest character, consisting chiefly of vegetable soups, and very brown bread. They rose between four and five, took three meals in the day, the last about six, and retired to rest at nine. They seemed happy in their lot.

"Some of the other normal schools of Switzerland are remarkable for the same simplicity in their domestic arrangements, though the students exceed in their intellectual attainments all notions prevalent in England of what should be taught in such schools. Thus in the normal school of the Canton of Berne the pupils worked in the fields during eight hours of the day, and spent the rest in intellectual labour. They were clad in the coarsest dresses of the peasantry, wore wooden shoes, and were without stockings. Their intellectual attainments, however, would have enabled them to put to shame the masters of most of our best elementary schools.

"Such men, we felt assured, would go forth cheerfully to their humble village homes to spread the doctrine which Vehrli taught of peace and contentment in virtuous exertion; and men similarly trained appeared to us best fitted for the labour of reclaiming the pauper youth of England to the virtues, and restoring them to the happiness of her best instructed peasantry."

#### NOTE B.

In the report of M. Lebrun, director of the normal school at Versailles, on Mulhauser's Method, the following passage occurs:—

"The art of writing presents two distinct parts:—*first*, the theoretical part, which consists in a rational analysis of the forms of written characters; and *secondly*, the practical, which gives the means of acquiring with rapidity the habit of forming the characters correctly.

"Generally, attention has been almost entirely confined

to the second part, under the impression that it is useless to reason with children, and that they are to be treated as machines, whose office it is to move and not to reflect. The author of this new method is guided by an entirely different principle. Nothing is more simple or easy to comprehend than his analysis of writing. The method generally adopted presents a useless multiplication of elementary characters. One method that has been introduced into several schools, has seventeen such characters. The author reduces them to four, and from these four elements, which are learnt with the utmost ease, are produced all the letters of the alphabet. The advantage of this simplicity appears unquestionable. The child accustomed to draw the elements of the letters with an exactness required by the rule impressed on his memory, cannot write badly if he has paid attention to the instruction. The teacher does not dictate a letter which can leave the pupil in doubt as to the precise thing that is required of him, but pronounces in succession each element of the letter, which the writer follows, without thinking of the letter itself.

"These enigmas both amuse the children and accustom them to reflect. I am peculiarly pleased with this part of the system, which calls into action the intelligence of the pupil by an allurements resembling that of a game. \* \* \* \* \*

"Finally, I have to report that the trial we have made has had the most successful result, and the method of M. Mulhauser appears to me every way calculated to ensure and hasten the progress of the children, while his discipline and arrangement of the classes show, in my opinion, a remarkable knowledge of the qualities and faults of infancy. Our schools cannot but profit by the entire adoption of the principles recommended by so experienced and able a teacher."

#### NOTE C.

Mr. Kay Shuttleworth and Mr. Tufnell thus refer to Wilhem's method of teaching singing:—

"The method of Wilhem is simply an application of the Pestalozzian method of ascending from the simple to the general through a clearly analyzed series, in which every step of the progress is distinctly marked, and enables the pupil, without straining his faculties, to arrive at results which might otherwise have been difficult of attainment. Wilhem has not in any respect deviated from the well-ascertained results of experience, either in the theory of music, or in the musical signs; but he has with great skill arranged all the early lessons, so as to smooth the path of the student to the desirable result of being able to read music with ease, and to sing with skill and expression even difficult music at sight. \* \* \* \* \*

"Those who desire further proof of the importance of the method of Wilhem should visit the normal school at Versailles, various day schools at Paris, and especially the great assemblages of the working classes, which occur almost every evening in Paris, for the purpose of receiving instruction in vocal music. The most remarkable of these probably is at the Halle-aux-Draps, where from 300 to 500 artisans are almost every evening instructed, from eight to nine o'clock, in vocal music. M. Hubert, a pupil of Wilhem, conducts this great assembly, by the method of mutual instruction, with singular skill and precision. We know scarcely anything more impressive than the swell of these many voices when they unite in chorus.

"If the music of Handel and Haydn were better known by the professors of music at Paris, assuredly this would be the place in which to display its most remarkable effects. Even in the singing of Wilhem's solfeggios in harmony, or of the scale in harmony, such a volume of sound was poured forth, that the effects were very impressive.

"A method which has succeeded in attracting thousands of artisans in Paris from low cabarets and miserable gambling-houses to the study of a science, and the practice of a captivating art, deserves the attention of the public. Mr. Hullah, in adapting the method of Wilhem to English tastes and habits, has both simplified and refined it. He has, moreover, adapted to it a considerable number of old English melodies, of great richness and character, which were fast passing into oblivion, and which may be restored to the place they once held in the affections of the people, being now allied with words expressive of the joys and hopes of a labourer's life, and of the true sources of its dignity and happiness.

"We have assisted in the developement of this method,

being convinced that it may tend to elevate the character of our elementary schools, and that it may be of great use throughout the country in restoring many of our best old English melodies to their popularity, and in improving the character of our vocal music in village churches, through the medium of the parochial schoolmaster and his pupils."

In addition to the singing classes at Exeter Hall, for schoolmasters, schoolmistresses, and others, a class for the instruction of artisans was opened some months ago. With a view to gain the attention of this useful portion of the community, so as to extend the benefit of this civilizing art among them, the admission fee was made scarcely more than nominal. This benevolent intention was at once responded to by upwards of five hundred individuals, whose constant attendance, and correct demeanour, have not been more remarkable than the great ability with which they have received the knowledge imparted to them so agreeably by their accomplished and persevering teacher.

It may not be thought irrelevant to refer to an unexpected benefit which the introduction of this method has conferred upon a few particular branches of the printer's trade.

The printed music of this country has long been produced by a combination of engraving and punching on pewter plates: the introduction of the method of Wilhem, however, required that musical passages should mingle with the explanatory letter-press, so that, like a page containing wood-engraving and letter-press, the whole might be stereotyped and printed off at once. This is the only method of printing works to be largely circulated at a cheap rate. Now it so happened that although musical type was employed in this country many years ago, its use has been extremely limited, and the hands who could work it very few, so that when cheap music had to be produced for the newly-instructed classes, there was really a deficiency of printers to execute this work.

When therefore Mr. Hullah's class for artisans was announced, a number of intelligent compositors hastened to join it, as a means of qualifying themselves for the practice of the new art; and after a few lessons they became so expert in the use of the simpler forms of musical notation, as to be able to put together the types with great facility.

It is delightful to trace the consequences of what may perhaps be called a commercial accident. Musical type up to a very recent period was imported from Germany; but, in consequence of the extensive demand for the article, it is now produced in our own country\*, thus creating a new branch of the type-founder's art,—extending his resources, and giving employment to many hands. But we regard with the greatest satisfaction the consequences to the compositors who were willing to become pupils in order to increase their usefulness. We are sure their example will not be lost;—a man who earns his daily bread by the production of one article, or by the performance of one operation, becomes less dependent and consequently of more importance in social life, the moment his powers of production or of performance are extended. Such is the case with these compositors, to say nothing of their acquisition of a pleasing art which they may carry home with them and diffuse among the members of their families, and thus invest their homes with a new charm and a fresh attraction. Nor is this all; this art may accompany them wherever they go—may shed its refining and civilising influence upon themselves and all around them; and supersede the low jest and the coarse personality.

Let it not be supposed that we overrate the advantages of this art among the people; nor let it be objected that the workman has long been in the habit of enlivening his toil with a song, without any very apparent benefit. It must be admitted that, previous to the efforts of Mr. Hullah, under the sanction of the Committee of Privy Council on Education, to which we refer with respect, the people's music had been chiefly confined to a repetition of the street ballad, which is usually characterised either by vulgarity or silliness, and always learned by rote and sung by ear; while of part music for the people we have had absolutely none; and our congregational singing has always been of the most imperfect description. A person who has acquired the art and science of music is capable of an intellectual operation of no mean value; and when artisans become as it were partners in intellectual pursuits they feel a greater respect for each other, and for themselves, and their wants and desires immediately begin to take a higher direction.

\* The beautiful types used in HULLAH'S *Part Music*, have been cut for the purpose, by Messrs. Sinclair and Sons, of Edinburgh.

#### NOTE D.

"The arts of design have been little cultivated among the workmen of England. Whoever has been accustomed to see the plans of houses and farm buildings, or of public buildings of a humble character, from the country, must know the extreme deficiency of our workmen in this application of the art of drawing, where it is closely connected with the comfort of domestic life, and is essential to the skilful performance of public works.

"The improvement of our machinery for agriculture and manufactures would be in no small degree facilitated, if the art of drawing were a common acquirement among our artisans. Invention is checked by the want of skill in communicating the conception of the inventor, by drawings of all the details of his combination. In all those manufactures of which taste is a principal element, our neighbours, the French, are greatly our superiors, solely, we believe, because the eyes and the hands of all classes are practised from a very early age in the arts of design. In the elementary schools of Paris, the proficiency of the young pupils in drawing is very remarkable, and the evening schools are filled with young men and adults of mature or even advanced age, engaged in the diligent cultivation of this art. Last Midsummer, in some of the evening schools of the Brothers of the Christian Doctrine, classes of workmen were questioned as to their employments. One was an *ebeniste*, another a founder, another a clockmaker, another a paperhanger, another an upholsterer; and each was asked his hours of labour, and his motives for attendance. A single example may serve as a type. A man, without his coat, whose muscular arms were bared by rolling his shirt sleeves up to his shoulders, and who, though well washed and clean, wore the marks of toil on his white horny hands, was sitting with an admirable copy in crayon of *La Donna della Segiola* before him, which he had nearly completed. He was a man about 45 years of age. He said he had risen at five, and had been at work from six o'clock in the morning until seven o'clock in the evening, with brief intervals for meals; and he had entered the drawing class at eight o'clock to remain there till ten. He had pleasure, he said, in drawing, and that a knowledge of the art greatly improved his skill and taste in masonry. He turned round with a good-humoured smile, and added he could live better on less wages than an Englishman, because his drawing cost him less than beer. Some thousand working men attend the adult schools every evening in Paris, and the drawing classes comprise great numbers whose skill would occasion much astonishment in this country. The most difficult engravings of the paintings of the Italian masters are copied in crayon with remarkable skill and accuracy. Complex and exquisitely minute architectural details, such, for example, as perspective views of the Duomo at Milan, or the cathedrals at Rouen or Cologne, are drawn in pen and ink, with singular fidelity. Some were drawing from plaster casts and other models. We found such adult schools in many of the chief towns of France. These schools are the sources of the taste and skill in the decorative arts, and in all manufactures of which taste is a prominent element, and which have made the designs for the calico printers, the silk and ribbon looms, the papers, &c., &c., of France, so superior in taste to those of this country, notwithstanding the superiority of our manufactories in mechanical combinations.

"These considerations lead us to account drawing an important department of elementary education. The manufacturers of Lancashire are well aware how difficult it is, from the neglect of the arts of design among the labourers of this country, to procure any skilled draftsmen to design for the cotton or silk manufacturer. The elevation of the national taste in art can only be procured by the constant cultivation of the mind in relation to the beautiful in form and colour, by familiarizing the eye with the best models, the works of great artists, and beautiful natural objects. Skill in drawing from nature results from a careful progress through a well analyzed series of models. The interests of commerce are so intimately connected with the results to be obtained by this branch of elementary education, that there is little chance that it will much longer suffer the grievous neglect it has hitherto experienced."

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